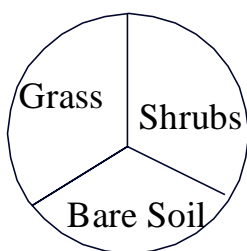




THE COVEY HEADQUARTERS

Volume 13 Issue 4 Winter 2014

This newsletter is aimed at cooperators and sports-people in Missouri to provide information on restoring quail. This is a joint effort of the Missouri Department of Conservation, USDA-Natural Resources Conservation Service, and University of Missouri Extension. If you would like to be removed from this mailing list or have suggestions for future articles please contact jeff.powelson@mdc.mo.gov or 816-232-6555 x122 or write to the address shown.



The name of this newsletter is taken from an old concept.....that a quail covey operates from a headquarters (shrubby cover). If the rest of the covey's habitat needs are nearby, a covey should be present. We are encouraging landowners to manage their quail habitat according to this concept. Use **shrubs** as the cornerstone for your quail management efforts. Manage for a **diverse grass, broadleaf weed and legume mixture and provide bare ground** with row crops, food plots or light disking **right next to** the shrubby area.

Tally Ho! Swamp Rabbit Hunting in Southeast Missouri

Tim Kavan, Private Land Conservationist, Mississippi, New Madrid, and Pemiscot Counties

"Tally Ho, ho, ho, ho" was the sound echoing from the bottomland hardwood forest that we hunted on a particular day last December. Those words held congratulatory significance as Rowdy, Luna, Dixie, and Jack were all greeted by Aaron Johnson after our first successful swamp rabbit harvest for the 2013 season.

Aaron is the owner of Sandburr Kennels from Sikeston where he spends nearly all of his free time breeding and training beagles. I was introduced to Aaron by Michael Riley, a quail hunting friend of mine, at a local Quail Forever fund raising event. Aaron would occasionally quail hunt with Michael and me but he would always talk about running his beagles during the quail hunt. One day I asked him if he could take me on a swamp rabbit hunt so I could be the judge of all his stories. So, we picked a day and headed to the woods.



Swamp rabbit hunting provides a little different environment than hunting cottontail rabbits. Generally speaking, cottontail rabbits will be found in places that have briars, especially blackberry briars, and enough foliage to protect them from overhead predators like owls and hawks. They also like fields with knee-high-or-higher cover, especially if there is a food source found in those places. Swamp rabbits, on the other hand, live in wet lowlands and in heavily constructed brush piles or in cavities of tree trunks along the banks of streams and drainage ditches. Both species favor areas where food crops or green browse (River cane for swamp rabbits) are adjacent to briar or shrub thickets. Food plots engineered for deer or turkey will also entice them. Rabbits will locate in areas that have had some type of disturbance (i.e. timber harvest or prescribed fire) and the vegetation is coming back with new growth.

Knowing where to go in the woods will usually increase your odds of putting the dogs on scent or jumping a rabbit on your own. Initially, I was a little cautious hunting with Aaron. This was my first hunt over beagles and I didn't know the "ethics" of hunting with Aaron and all the dogs. The first "code" I was given was to "let the dogs do the work." What Aaron meant by that was that these hunts aren't necessarily intended only for us. The hunt was also to allow all those hours of hard work and training to pay off and actually get to appreciate the contest between the intelligence of the beagles versus the elusiveness of the rabbit. You may have never experienced a rabbit being chased by a group of beagles but it is truly amusing how the rabbits instinctively attempt to elude the hunting dogs.

Once a rabbit is "jumped" and the dogs are hot on the trail, rabbits will often run in a circular pattern and eventually cross their original trail to throw the dogs off the scent and put them on a false trail. That means once the "race" is on, you need to find a good spot up the line from where the rabbit was flushed. The dogs will do the rest as they work the rabbit back around toward your position. Another trait that separates cottontails from swamp rabbits is the length of the chase. Swamp rabbit chases typically last 2-3 times longer than a cottontail chase because they are very elusive. They make bigger circles, cross ditches, take longer strides, and have been known to swim ditches, climb in dens or in holes in the ground to escape the dogs.

I'll never forget the first "chase". We weren't out of the truck half an hour when the dogs began their chase. You'll immediately know when the chase is on, too. A properly trained beagle won't bark, whine, whimper, or make a sound until they are hot on a scent trail. Then the flood gates open up and the woods fill with howling dogs. Those dogs started on a trail and I kept asking Aaron what to do, what to expect, and where to go. I'm sure he was thinking "My gosh, what did I get myself into?"

But Aaron was great. He explained everything to me and put me in a location where he thought the dogs would push the rabbit through. Aaron also had GPS tracking collars on each of his dogs, and I would continuously ask him how far out the dogs were and so on. At one time the beagles were over 350 yards away from where they initially picked up the scent of the rabbit.

Patience and good hearing are two helpful skills in swamp rabbit hunting. Patience is critical because of the reason I provided before; to let the dogs work. Good hearing helps in listening to the different tones of the barks from the beagles. Each dog has its own "job" or "position" while on the chase. One dog might be the holder of the scent while the other is the confirmer and so on.

While Aaron was explaining all of this to me during that first chase, I could hear that the dogs had made a turn back to me and I was quick to assume the circle was about to close and I was going to shoot a rabbit. Aaron quickly hollered at me and had me reposition about 80 yards to the north.

As I made my move, I began to see the dogs working their noses to the ground and lift their head to howl and get back on the chase. The dogs came closer to me and I thought, "Where in the world is this secretive creature?"

About that time, the dogs blew right past me at 15-yards and continued on their pursuit of the rabbit. I relocated too late. The rabbit had already snuck past me and now the dogs were on their second "circle" still chasing the rabbit.

About three minutes passed and I heard Aaron holler at me.

"There he is, 20 yards out in front of you!"

I shot and missed and that rabbit took off on a dead sprint right at Aaron. It ran through his legs and back into an opening where we both had a shot at it. The visual reward to the dogs was enough to silence them as they began searching for their next hot trail with the cry of "Tally Ho, ho, ho, ho!" echoing through the woods.

Mark Your Calendar

January 28, 2015 – Prescribed Burn Workshop, Trails Regional Public Library, 432 North Holden Street, Warrensburg. 5:30 PM to 8:30 PM. Contact Steve Hoel at 660-747-8200 ext 117 to register.

January 31, 2015 – Prescribed Burn Workshop, (location TBD near Chillicothe – inquire when registering). Starting at 9 AM with a classroom session, then a hands-on demo burn to follow at the Poosey Conservation area - weather permitting. Landowners should bring leather gloves and leather boots. Pre-registration is required by Wednesday January 28. Materials, refreshments & lunch will be provided. Contact: Scott Roy, MDC PLS, 660-359-5685 ext. 114 or Andrew White, QF FBB, 660-646-6220 ext. 116.

February 28, 2015 – Regional Landowner Workshop, Southeast Missouri University Campus in Malden, MO (700 N Douglass St, Malden, MO 63863) from 8am – Noon. Participants at the workshop will have opportunities to hear presentations on wildlife, forest, and pond management as well as other topics such as trespassing issues and cost share programs. There will also be a library with conservation related publications, as well as a Landowner Consultation Room where participants can receive one-on-one assistance from biologists to evaluate your farm for wildlife habitat potential. Pre-registration is required by calling the MDC Southeast Regional Office at 573-290-5730.

Winter Covey Headquarter Calendar

December

Burn native warm-season grass fields to set back the grass and encourage annual weeds.

Disk your CRP acres now to promote ragweed.

Order your covey headquarter shrubs from MDC's State Nursery - mdc.mo.gov/node/4011

Drop honeylocust and hedge trees in fencelines for quail covey headquarters. Don't forget to spray the stumps to prevent re-sprout.

January

Stop wasting money on inputs on low-yield cropfield edges. Visit your local FSA office and enroll these areas in CRP practice CP33.

Burn your CRP acres to reduce grass competition and increase wildflower abundance.

Plant your wildflower pollinator habitat this month.

February

Interseed wildflowers/legumes in conjunction with your CRP management practices.

Broadcast annual lespedeza over recently burned areas and firelines.

Create covey headquarters by dropping large trees along fencerows and leave them where they fall.

Finish burning your native warm-season grass acres this month. For quail, DO NOT burn rank stands of native grass after March 15.

Complete edge feathering, downed tree structures, and forest stand improvement projects.

Fire and Grazing for Wildlife Management

Scott Sudkamp, Small Game Coordinator

In October, 2014, I travelled to southeast Oklahoma with two other MDC biologists to attend a field day showcasing the use of fire and grazing as wildlife management tools. The field day was held at the Pushmataha Wildlife Management Area (WMA). Terrain on the WMA is rugged, with many rocky hills and valleys. Soils are well drained, with many large slabs of sandstone at or near the surface. Annual rainfall averages 52". Historically, the area was largely oak/pine woodland and savannah, with post oak and shortleaf pine as the dominant trees, and a ground layer of native grasses and forbs. In short, the landscape on and around the WMA is very similar to much of the southern Missouri Ozarks.

Soon after European settlement, the area was mostly used as native pasture, but as fire suppression became common in the early 1900s, woody succession advanced rapidly and began to eliminate the grass/forb component. Today, the general landscape outside the WMA is mostly closed-canopy timber, and little grazing still occurs, due to a lack of forage in the heavily shaded woods. But on the WMA itself, staff have utilized prescribed fire at varying intervals over the past 30 years. This, along with thinning and commercial tree harvest, has resulted in restoration of the floral community and vegetative structure that was once present. More recently, patch burn grazing has been introduced as a habitat management tool to reduce grass dominance and improve structural heterogeneity. Wildlife, including elk, turkey, white-tailed deer, and bobwhites have responded favorably to these habitat enhancements, and populations of these species on the WMA are considerably higher than populations outside the WMA.

Following are some of my notes from the field day based on the management techniques we observed:
Patch Burn Grazing (PBG) Study Site:

- In 2014, stocker cattle were on PBG pasture from mid-March through mid-September. Stocking during the growing season provides cattle with highly palatable and nutritious forage, and grazing at that time keeps vegetation in the grazed patch from becoming rank.
- WMA staff reported 1.15 pounds average daily gain for stocker cattle in 2014
- Due to loss of a forage base due to forest succession, little private land near the WMA is still grazed. Some grazing does occur on more fertile introduced grass pastures (fescue, Bermuda, and bahia) in open valleys nearby. Cattle gains on PBG native forages (mostly big and little bluestems and indiagrass) with no inputs rivals gains on conventionally managed pastures in the nearby valleys. This despite significant differences in soil productivity (rocky, well-drained pastures on the WMA vs. loamy, more moist bottomground pastures in the valleys)
- Vegetation structure on PBG sites looks very good for commonly managed-for wildlife species (quail, deer, turkey)
- Forage use will point to proper stocking rates. If cattle are grazing the unburned portions to a significant degree, then the stocking rate is too high and some stock should be removed. Conversely, if the burned patch growth is getting ahead of the cattle, then more stock can be added.
- When averaged over 5-6 years, forage production and cattle gains are better on PBG managed pastures than on traditionally managed ones. In wet years, traditional management may outperform PBG, but in dry years PBG will be much better. Also, in severe drought years, the unburned patches can serve as a grass bank.

Oak/Pine Woodland Management:

- Shortleaf pine and post oak are the most common trees on the WMA, probably due to fire tolerance. WMA staff and University of Missouri professor Mike Stambaugh both noted that they have not found a fire intensity severe enough to consistently kill shortleaf pine or post oak. Both species may be top killed by fire, but both will resprout readily – even the shortleaf.

- Stambaugh reported that based on fire scar studies dating back more than 300 years, these communities historically burned every 3-8 years or so on average. This fire return interval selected for shortleaf pine and post oak as the primary tree species on the landscape due to their fire tolerance.
- A fire return interval of 3 years or less seems to be the threshold for shifting to a grass/forb-dominated understory. More frequent fire tends to increasingly reduce tree canopy densities, even among fire tolerant species (they often persist, but may be top-killed and occur as resprouts).
- Fire will almost never control oak sprouts – it just suppresses them. Even in the plots burned annually for the past 30 years, oak sprouts are still very prevalent in the understory. These sprouts might have root systems that are decades old, so cessation of burning will quickly release them to fully occupy the canopy and suppress the grasses and forbs. This highlights the importance of regular fire in keeping land open and grass/forb dominated

Anecdotally, the highest use rate by quail *in the fall* is on the post oak savannah and pine/bluestem savannah plots that receive annual fire. But this management regime probably does not support the most *during the breeding season*, since there would not be much if any nesting cover present. Likely the best scenario is having annually burned patches adjacent to patches burned every 2-3 years, or the PBG type management.

Small-Game Hunting Forecast Mostly Sunny

Quail, pheasant, and squirrel numbers are increasing from recent lows in most areas, and rabbits are likely to follow this general upward trend, according to resource scientists with the Missouri Department of Conservation.

Field observations play an important role in the Conservation Department's annual evaluation of game populations. The Conservation Department also pays close attention to weather throughout the year, looking for insights about winter survival, nesting conditions, and factors affecting the availability of food, shelter, and water for young, growing game animals. This year's weather news is mostly good.

Conservation Department Resource Scientist Beth Emmerich says that while the winter of 2013-14 was colder than normal, and spring arrived late, quail and pheasants seem to have coped with it surprisingly well.

"Precipitation was close to normal this winter," says Emmerich. "We had one notable snow event on Feb. 4 and 5 that dumped 4 to 12 inches of snow across the northern half of the state. Quail began nesting later than usual this year, with the peak of the hatch in July. But we got a break from the cycle of floods, drought, and heat that we have seen in recent years, and wildlife took advantage of relatively normal conditions during the brood-rearing period of early summer."

Emmerich says quail numbers are up statewide this year, and higher than they have been since 2010. Northwest, north-central, and northeastern Missouri all recorded increases in quail numbers. So did west-central Missouri. Pheasants, which share many of the same habitat as quail, showed good production in those pockets of northern Missouri where significant pheasant populations persist. Field reports also indicate an increase in cottontail rabbit numbers across the state.

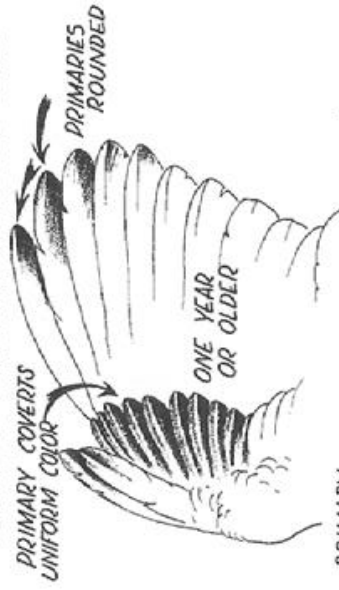
"I don't want to paint an overly rosy picture," says Emmerich. "It's very encouraging to see survey numbers come up substantially. But it is important to remember that these increases come on the heels of all-time lows. Scarcity of suitable habitat for upland game remains the biggest challenge to increasing quail, pheasant, and rabbit populations. Good brood-rearing habitat is most limiting statewide. Quail chicks need bare ground to be able to forage effectively, with weedy plant species providing food as well as overhead protective cover. We still have a long way to go."

Wing Aging Bobwhite Quail

From a study of the wings, it is possible to determine:

- Old birds from young birds-of-the-year.
- The age of birds-of-the-year when they are under 15 weeks of age.
- Field and weather conditions which effected quail production any given year. Compute the age of the birds-of-the-year and count back on the calendar to determine their hatching period.

YOUNG-OF-THE-YEAR FROM OLD BIRDS



In this way, knowledge of the ratio of young-to-old birds in the fall population and the time of hatching periods helps your Conservation Commission measure the annual bobwhite production, the condition of the state quail population, and other factors important in the management and regulation of your favorite sport.

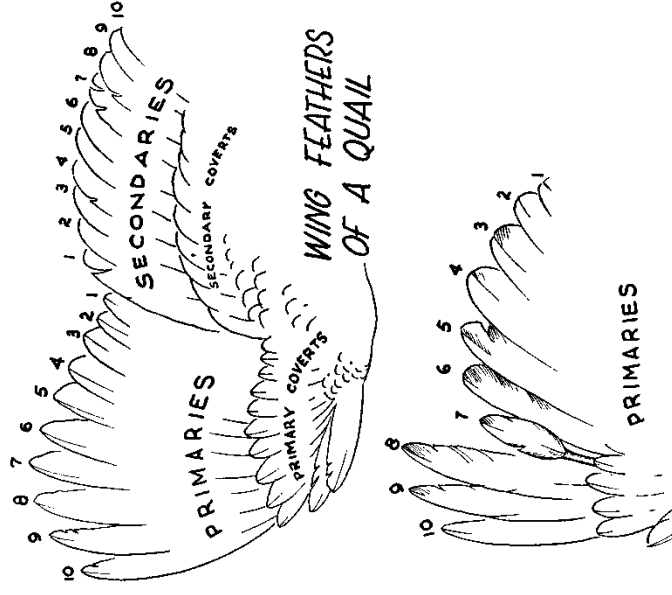
TO AGE YOUR BIRDS

- Check the wings and determine whether the bird is an old bird or a young bird of the current year. (See illustration at left.)
- If the bird is a young-of-the-year, decide if it is under 15 weeks of age by examining primaries number 1 to 8. If any primary has recently been lost or replaced (evident by being only partially grown), the bird is under 15 weeks of age. (See illustration on following page.)
- If under 15 weeks of age, determine the number of the latest primary dropped or replaced.
- Check the aging table below for the number of the primary dropped or replaced, and determine the age of the bird.
- Count back on the calendar, in weeks, the age of the bird, and determine the time of the hatch.

YOUNG QUAIL AGING TABLE

Number of Last Primary Dropped or Replaced	1	2	3	4	5	6	7	8	All Feathers
Age of Young Quail in Weeks	4	5	6	7	8	9	10.5	14.5	Mature 16.5

AGE DETERMINATION OF YOUNG QUAIL UNDER 15 WEEKS OLD



Wing primaries of a quail showing the latest dropping and replacement of number 7 primary. By locating number 7 primary in the aging table on previous page, the bird is found to be 10 1/2 weeks old.

Why is burning (at the proper time) important for quail?

Always have an objective in mind before you burn. The native warm-season grass field pictured was burned in early September to reduce grass dominance and control black locust sprouts. Listed below are recommended burning times for wildlife management.

Native warm-season grasses (Aug. – Feb.) – Best time for quail

- Stimulates wildflower growth and seed germination
- Sets back thick non-useable stands of native warm-season grass
CAUTION – burning at this time can cause erosion problems if done on steep slopes

Cool-season grasses with less than 2" of new growth (Feb. – Mar.)

- To prepare for interseeding of legumes into the existing grass stand
- To stimulate cool-season grass
- To stimulate germination of legumes in a rank stand of grass



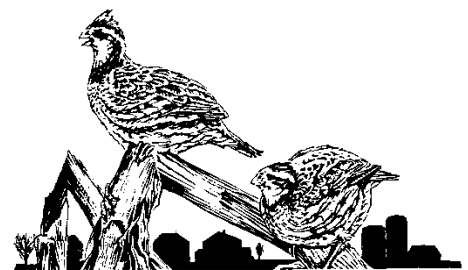
Cool-season grasses with at least 4-6" of new growth (April – May) – Best time for quail

- To set back thick stands of cool-season grass and encourage annual weeds
- Kill or set back woody vegetation
- Useful to open up thick stands of fescue, brome, and orchardgrass
CAUTION – burning at this time will kill germinated annual lespedeza and ragweed

Native warm-season grasses with 1-3" of new growth (April – May)

- To thicken up a poor stand of native grass
- Kill or set back woody vegetation
- **Burning at this time is not recommended for wildlife purposes in thick stands of grass**
CAUTION – burning at this time will kill germinated annual lespedeza and ragweed

For quail management purposes, you want just enough grass to control erosion. A perfect looking stand of grass is generally not good for small game. You want your grasslands weedy with plenty of bare ground between the grass clumps. If there is enough grass to carry a fire you should burn every 3 years. Have a goal in mind when you decide to burn and only burn 1/3 to 1/2 of each field. This will leave some grass for nesting while the burned area will be used as brood habitat. With burning timing is everything to make sure you get the results you want. If you are new to burning, attend a prescribed burn workshop and make sure you have a burn plan before you drop the match.



Good Quail Habitat = A+B+C

You don't need any secret ingredients turn your land into a good place for quail. It just takes a mix of plants and ground cover with the right habitat management practices. Quail habitat is really as simple as ABC:

- A. **Shrubby, brushy cover** is the cornerstone of quail habitat. It provides protection from predators, winter cold and summer heat. Small shrubs such as wild plum, dogwood, blackberry, and fragrant sumac give good shelter without becoming too dense underneath or too tight a canopy above. These brushy areas should be at least 30 feet wide.
- B. **Grasses and legumes** – when burned or grazed to keep at least 20 percent of the ground bare (free of plant material) give quail a good place to roost, nest and raise their young. Fescue and brome tend to be the least hospitable to quail because they grow really thick. However, with Missouri's climate, all grasses require management to keep some bare ground for the birds. If you have the choice of creating ideal grassland habitat for quail, it should include a medium-height, warm season grass (little bluestem) and forbs (legumes or flowers). Some possible native forbs include tick trefoil (*desmodium* spp.), slender lespedeza (*lespedeza virginica*) and partridge pea (*cassia fasciculata*).
- C. **Quail favor annual weedy plants** such as ragweed and croton, although they'll eat a great variety of seeds and insects. Like rabbits, quail are an "early successional" species. That means you'll find them in places that are not densely overgrown and that have some disturbed ground with annual plants. Land that is periodically tilled, planted or not, provides diverse food for quail. Disking one third of your grassland acres is good for producing the annual plants quail prefer. This will also keep the grassland open and usable for quail.

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